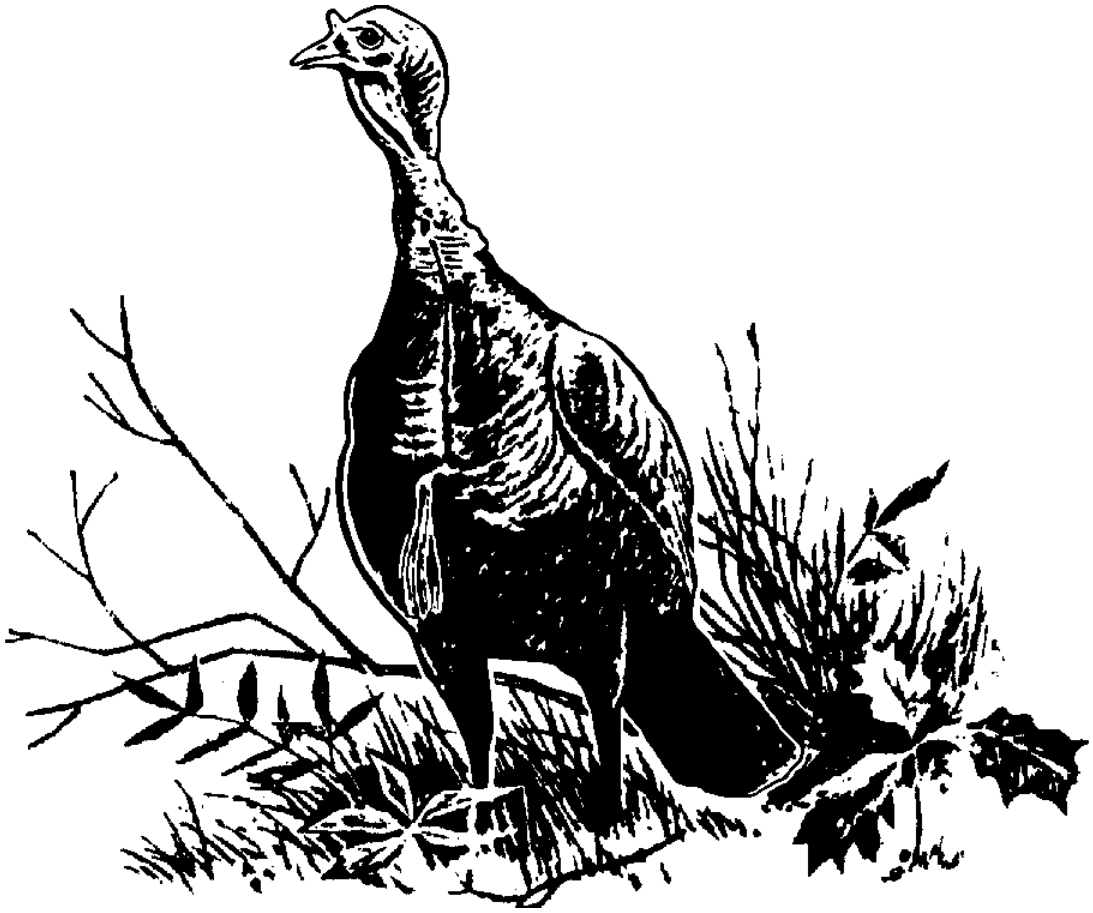
# Louisiana Wild Turkey Program Report

## FY 2003/04



**Louisiana Department of Wildlife and Fisheries**
**Wildlife Division**

# Introduction

*"All phases of this investigation indicate that the wild turkey population of the State is at a critical low, and that unless drastic measures are undertaken to insure its perpetuation, the species is in danger of total extirpation."* F. D. Hollis, 1947

Fortunately, the future for wild turkeys in Louisiana is considerably brighter than it was over 55 years ago when Frank Hollis reported on the status of wild turkeys in Louisiana. In 1946-47 only 133 flocks could be identified in the state and only 6 parishes contained 10 or more flocks. Through restocking, management and protection turkeys have been restored to most of their historic range. The restoration of the wild turkey in Louisiana and across the nation is something all conservationists can be proud of. However, we cannot afford to rest on our laurels, the job of managing wild turkeys is an ongoing effort and involves monitoring populations, managing habitat, managing hunting and conducting research. This report summarizes the Department's efforts in these areas and outlines the status of wild turkeys in Louisiana in 2003/04.

# Population Monitoring

Wild turkey populations are monitored by several established surveys and monitoring programs. These surveys are best used to monitor long-term trends rather than simply measure year to year variations. Since observations and data collected from most of these surveys are not random across time and space, there is likelihood of bias in short-term results. The bias becomes less of a concern over several years as the number of observations increase and trends develop. Therefore, it is important not to rely on any single survey or monitoring program, but rather, look at all the available indicators in making observations about wild turkey populations and status.

## *2004 Hunting Season*

The length of the turkey season varies across Louisiana depending on geographical location and turkey population status. In 2004, there were 3 turkey season frameworks (Areas A, B, and C) (Figure 1). The Area A season was March 27-April 25 (30 days), Area B was March 27-April 18 (16 days), and Area C was March 27-April 4 (9 days).

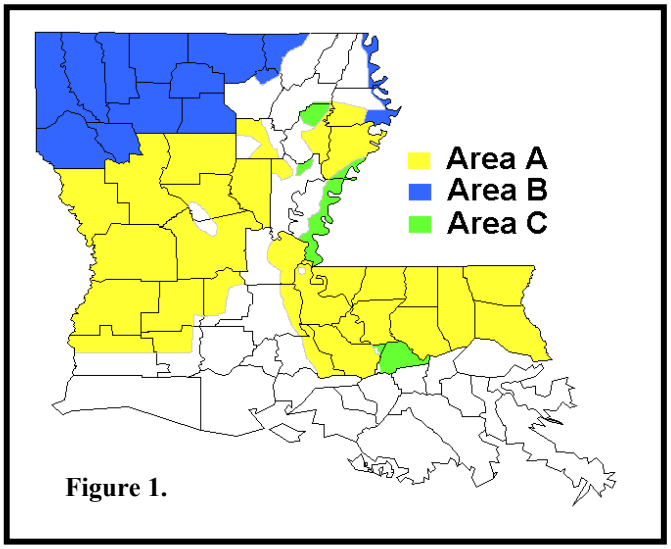


**Figure 1.**

Reports from hunters indicate that gobbling activity was high and success was relatively high. March temperatures throughout Louisiana were higher than normal and seemed to result in an "early spring". These observations were supported by LDWF gobbling activity data collected prior to opening day.

A gobbler with 2 spurs on each leg was taken in West Feliciana Parish during the 2004 season by Jason Litoma. This gobbler also had two beards. While double bearded gobblers are not uncommon, double spurred gobblers are quite rare.

For the first time in Louisiana, a statewide youth hunt was set for private land. This hunt was held March 20-21. Reliable participation estimates are not available, but participation is thought to have been light.

In addition to its recreational value, hunting can be a valuable population monitoring tool. Hunter success may be an indicator of population status and can be used to monitor long-term trends in wild turkey abundance. Hunter success is monitored by 2 methods. Wildlife Management Area harvest is determined through the use of self-clearing permit stations. State-wide harvest is monitored by an annual mail survey.

*Wildlife Management Area Results*

Twenty-seven WMAs were open for turkey hunting in 2004 (Table 1). Nine of these WMAs had at least a portion of its season open to successful lottery hunt applicants only. WMA turkey hunters reported making 5,467 trips and bagging of 332 gobblers.

Special youth lottery hunts were conducted the Saturday prior to the regular turkey season opening on 7 WMAs. Youth hunts were held on Bens Creek, Big Lake, Fort Polk, Jackson-Bienville, Loggy Bayou, Sherburne, and West Bay WMAs. The youth hunters were guided by experienced turkey hunters who were members of the National Wild Turkey Federation or Department employees. One family member was allowed to accompany the youth hunter and guide, but was not allowed to hunt. Gobblers were bagged on 6 of the youth hunts. The youth hunts on Sherburne and Peason Ridge WMAs were particularly successful with 4 out of 9 hunters bagging a gobbler on Sherburne, and 5 successful hunters out of 18 on Peason Ridge. The overall success rate for the WMA youth hunts was 23.4% or 1 gobbler bagged per 4.3 hunters. Over 98% of the hunters either saw or heard gobblers during the youth hunts.

Table 1. Wildlife Management Area turkey hunt results (excluding youth hunts), 2004.

| WMA | Days | Efforts* | Kill | Effort/Kill | Comments |
|---|---|---|---|---|---|
| Bayou Macon | 2 | 9 | 4 | 2.3 | 2-day lottery |
| Bens Creek | 23 | 576 | 14 | 41.1 | |
| Big Lake | 9 | 923 | 44 | 21.0 | |
| Bodcau | 16 | 435 | 17 | 25.6 | |
| Boeuf | 9 | 27 | 1 | 27.0 | |
| Boise Vernon | 25 | 651 | 23 | 28.3 | Two 2-day lottery hunts; remainder open |
| Camp Beauregard | 16 | - | - | - | |
| Fort Polk | 30 | 311 | 31 | 10.0 | |
| Grassy Lake | 16 | 190 | 11 | 17.3 | |
| Hutchinson Creek | 30 | 30 | - | - | |

| WMA | Days | Efforts* | Kill | Effort/Kill | Comments |
|---|---|---|---|---|---|
| Jackson-Bienville | 16 | 431 | 23 | 18.8 | |
| Lake Ramsey | 16 | - | - | - | |
| Little River | 16 | 21 | 2 | 10.5 | |
| Loggy Bayou | 2 | 12 | 2 | 6.0 | 2-day lottery |
| Pearl River | 23 | 228 | 12 | 19.0 | |
| Peason Ridge | 30 | 33 | 2 | 16.5 | |
| Pomme de Terre | 9 | 80 | 1 | 80.0 | |
| Red River/Three Rivers | 9 | 295 | 50 | 5.9 | |
| Sabine | 4 | 31 | 7 | 4.4 | Two 2-day lottery hunts |
| Sandy Hollow | 23 | 118 | 3 | 39.3 | |
| Sherburne | 9 | 745 | 49 | 14.2 | 2-day & 3-day lottery hunts, remainder open |
| Sicily Island | 9 | 129 | 7 | 18.4 | Three 3-day lottery hunts |
| Tunica Hills | 8 | 103 | 11 | 9.4 | Four 2-day lottery hunts |
| Union | 2 | 3 | 1 | 1.5 | 2-day lottery hunt |
| Walnut Hill | 30 | - | - | - | |
| West Bay | 2 | 86 | 17 | 5.1 | Two 2-day lottery hunts |

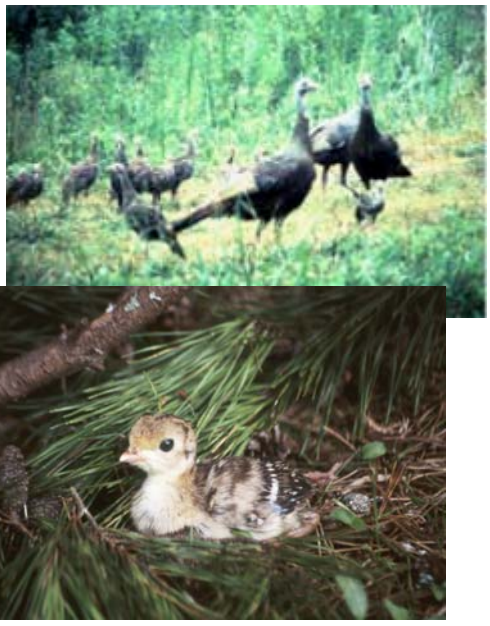
* Efforts reported at mandatory self-clearing check stations. In some instances compliance with reporting requirements was poor and actual efforts may be significantly higher.

### *Harvest Survey*

Each year the Department mails a harvest survey questionnaire to 6% of licensed hunters. Information regarding the hunter's activity and harvest is requested. This information is compiled and used to develop hunter, harvest, and hunting effort indices for various species. However, because the survey is conducted immediately following the close of the fall and winter hunting seasons, the information obtained from turkey hunters is for the prior spring. For instance, the information gathered from the 2004 harvest survey is for the 2003 turkey season. Nevertheless, this information provides an indication of the turkey harvest and distribution.

The index for the number of turkey hunters in 2003 was about 25,800. They averaged hunting 6.0 days per hunter. However, 58% hunted only 1-5 days. Hunters reported bagging about 9,000 turkeys. Most (73%) hunters did not bag a gobbler. Sixteen percent (16%) of the hunters bagged 1 turkey and 11% bagged a season limit of 2 turkeys

## ***Poult Production Survey***



Wild turkey brood surveys are valuable for examining population trends in various forest habitat regions of the state (Figure 2). These brood surveys are used to monitor poults per hen (PPH) which serves as an index to annual production. The primary breeding and egg laying period occurs from late March to mid- April in Louisiana. Most mortality among turkey poults occurs during the first 3 weeks of their lives. With this in mind, 1 July - 31 August was selected for the poult survey (a period when poults should be four weeks or older in age). Most poults observed during the survey period should be alive during the spring hunting season. During July and August, Wildlife Division personnel

and other selected individuals record the number of hens, poults, and gobblers observed. Observations are usually made during the routine duties of the observer and as such, are not random. Date, parish, and/or WMA where the observation is made are also recorded. Production is then ranked into 5 categories: 1) excellent-4.0 PPH or higher, 2) very good- 3.3 - 3.9 PPH, 3) good- 2.6 - 3.2 PPH , 4) fair - 2.0- 2.5 PPH, or 5) poor- below 2.0 PPH.

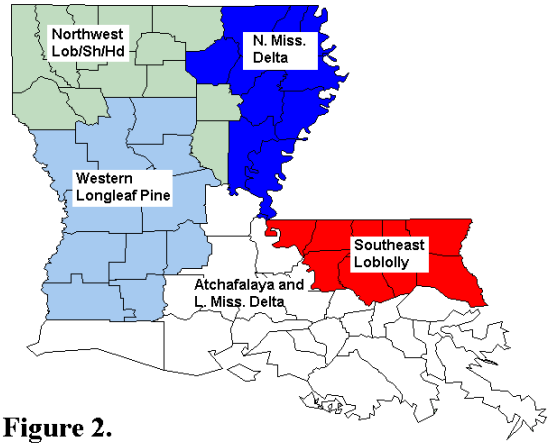



**Figure 2.**

During 1 July – 31 August, 2003, 198 observations were recorded and used to determine PPH ratios. Differences in the PPH index were observed among habitat regions ($P < 0.20$) (Table 1). PPH ratios were highest in the North Mississippi Delta and Western Longleaf Regions, followed by the Northwest Loblolly/Shortleaf/ Hardwood, Southeast Loblolly, and South Atchafalaya / Lower Mississippi Delta Regions.

Table 1. Poults per hen (PPH) by habitat region, 2003.

| Habitat Region | No. Observations | PPH Ratio | Ranking[a] | 1994 -2002 PPH Average |
|---|---|---|---|---|
| N Mississippi Delta | 24 | 4.6 | A | 4.5 |
| W Longleaf Pine | 47 | 4.3 | A | 4.4 |
| NW Lob/Sh/Hdwood | 33 | 2.8 | B | 3.7 |
| SE Loblolly Pine | 30 | 2.6 | B | 2.3 |
| S Atch /L Miss Delta | 64 | 1.2 | C | 2.9 |

[a] PPH Ratios with the same letter are not different (P=0.20)

Wild turkey production in 2003 was good or excellent in most regions of the state. In comparison to prior years, however, the 2003 hatch ranks among the poorest recorded (Table 2). The relative ranking is impacted by the outstanding hatches that occurred during several of the last 9 years. The 2003 PPH ratios for the Western Longleaf Pine and North Mississippi Delta are considered "excellent". Similarly, the 2003 PPH ratios for the Northwest Loblolly/ Shortleaf/ Hardwood and Southeast Loblolly regions are considered "good". Only the South Atchafalaya/ Lower Mississippi Delta Region had a PPH ratio considered "poor".

Ideal conditions for wild turkey production in Louisiana are thought to involve drier than normal conditions during late April though early June, and normal or above normal rainfall during late June through August. Rainfall extremes occurred during the critical months of May and June. In the southern and central parts of the state, May was very dry and June was very wet. Heavy rainfall in June may have negatively impacted poult survival in some areas of the state, particularly poults from late hatches.

Although this survey is useful in monitoring productivity, it has significant limitations. Since observations are not random, and effort across regions may not be similar, regional variations can be affected by observer effort and interest.

# Research

The Department is participating in four research projects investigating various aspects of wild turkey ecology and management.

## *Gobbling Activity Survey*

This survey was begun in 1999 to monitor gobbling activity and identify peak periods and trends. Survey routes are set up on a number of WMAs, the Kisatchie National Forest, and private property. The routes consist of 4-6 stops and are run each day for 3 weeks prior to opening of the turkey season. These routes were established in areas with moderate to high turkey populations and are not randomly located. The number of gobbles and the number of individual gobblers heard at each stop during 8-minute periods are recorded. Each route takes about 1 hour to complete.

In 2004, routes were run March 8-26. A total of 208 observation-days comprising 937 stops were recorded and used in the analyses.

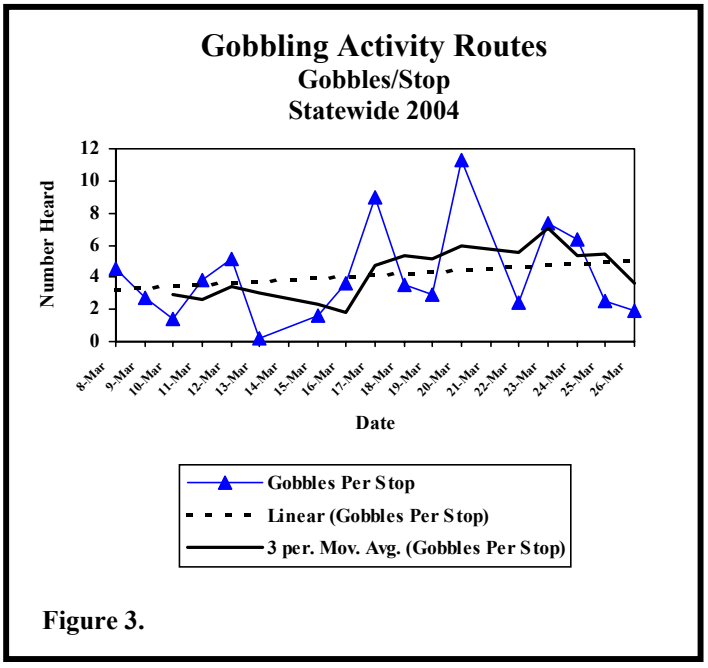



**Figure 3.**

Gobbling activity was more intense than that observed in 2003. Except for the Bens Creek WMA and Mosher Hill routes, the 2004 mean values for both measures of gobbling activity were higher than the 2003 mean values on every route. The highest mean value for gobbles per stop (9.02) since the inception of the survey was recorded from Sicily Island WMA this year. Similarly, the highest mean number of gobblers per route (9.0) since the survey began was recorded from Big Lake WMA this season. The north Louisiana mean values for gobbles per stop and gobblers per stop were the highest recorded since the survey began. The presence of high gobbling activity early in the survey period precluded the development of an increasing trend on many of the routes. March temperatures averaged 3 degrees above normal across the state. This warm weather probably contributed high levels of gobbling activity throughout the survey period.

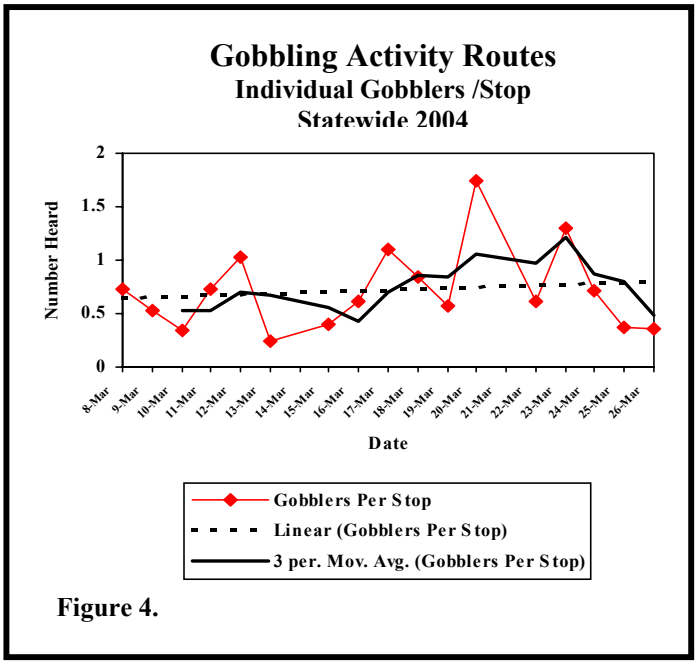



**Figure 4.**

Date of high count for gobbles per stop varied among routes. Highest counts for gobbles per stop were recorded during the week of 8-13 March for 2 routes, during the week

of 14-20 March for 4 routes, and during the week of 21-26 March for 8 routes. The amount of gobbling was high during the first and second weeks of the survey in south Louisiana, but declined during the third week. However, the number of gobbling birds increased by the third week. In north Louisiana, the amount of gobbling and the number of gobbling birds declined slightly from the first to the third week.

Caution should be used in interpreting the data relative to gobbling peaks. The levels of gobbling activity fluctuated daily on most routes with high counts one day and often zeroes the next. Weather or other disturbance factors can have profound effects on gobbling activity on any given day. Trends and sustained high levels of gobbling activity, such as depicted by the 3-period moving average, should be used to determine gobbling activity peaks

## *North Louisiana Banding Project*

This project is being led by Dr. James Dickson at Louisiana Tech University. The project involves banding gobblers on public and private land in north central Louisiana with the objective of measuring harvest rates and survival of gobblers on public and private land. Other objectives include collection of data regarding physical characteristics and demographics of wild turkey flocks in the region. The Department of Wildlife and Fisheries and International Paper Company assisted with trapping and logistical support

During 2004, the fourth and final year of the project, 34 gobblers were captured by International Paper and Department of Wildlife and Fisheries personnel. All turkeys were weighed, aged, banded and released at the trap site. The beard and spur lengths for gobblers were also measured.

Efforts were made to encourage hunters to report banded gobblers taken during the 2004 turkey season. Six gobblers banded in 2003 and 3 banded in 2004 were reported taken during the 2004 turkey season.

## *Washington Parish Banding Project*

The objective of this project is to monitor harvest rate and develop survival estimates for gobblers in southeast Louisiana. Wildlife Division personnel trapped and banded gobblers on Bens Creek WMA and nearby hunting clubs. Hunters were asked to report banded gobblers they bagged during the hunting season. A similar project was conducted during 1989-94, the results of which were published in the 51st Proceedings of the Southeastern Association of Fish and Wildlife Agencies. Data derived from the current project will be compliment the earlier work.

During the winter of 2003/04, 36 gobblers were captured and released. Additionally, 10 gobblers banded in prior years were recaptured. During the 2004 hunting season, 24 banded gobblers were reported. Of these reported gobblers, 11 were banded in 2004, 8 were banded in 2003, 3 were banded in 2002, 1 was banded in 2001, and 1 was banded in 2000.

## *Sherburne Turkey Research Project*

This project began in 1996 on the Sherburne WMA and Atchafalaya National Wildlife Refuge. The project was developed to gather basic ecological information on wild turkey hens in bottomland habitat. Determination of habitat selection, nest success, nesting rates, and mortality are among the objectives. Hens are fitted with radios and monitored throughout the year. Special attention is given to nesting hens and hens with broods. In addition, gobblers are banded to estimate harvest rates. The hen component of this project will be completed in the fall of 2004. A gobbler survival and dispersal component will begin in the summer of 2004.

The Department initiated this project, but has transferred responsibility to Dr. Michael Chamberlain of the LSU School of Renewable Natural Resources. Dr. Chamberlain has received funding from LSU and the Louisiana Chapter of the National Wild Turkey Federation. The Department has provided a vehicle, equipment, and supplies.

# Habitat Improvement Projects

Habitat improvement projects were initiated during 2003/04 on Jackson-Bienville, Sherburne, Pearl River, West Bay, Big Lake, and Boise Vernon WMAs.

The Louisiana Chapter of the National Wild Turkey Federation contributed $15,000 as part of a 3-year commitment to improve habitat on Jackson-Bienville WMA. Other partners such as Entergy and Weyerhauser have also contributed to this project. Planting of pipeline and powerline ROWs, herbicide applications, and construction of gates/barriers are among the management practices being employed.


An ongoing project to restore overgrown powerline rights-of-way (ROW) was expanded to include an additional Entergy ROW on the Sherburne WMA. Entergy Corp. provided an Environmental Stewardship Program Grant to implement this project. LDWF will plant and maintain the ROW with turkey stamp funds. This project will improve brood rearing habitat for wild turkeys.

A project to reclaim approximately 30 acres of openings on Pearl River WMA continued. Approximately 10 miles of overgrown logging roads were opened and planted. Creation of openings and edge for nesting and brood rearing are the goals of this project. Turkey stamp funds are being used to finance this work.

A project to develop improve forest openings for wild turkeys on Big Lake WMA was funded with Turkey Stamp proceeds. Five openings consisting of approximately 28 acres were developed and planted to improve brood habitat.

A cooperative project between the Department of Wildlife and Fisheries and Cleco Corp. was initiated to enhance habitat on West Bay WMA. Cleco donated seed and fertilizer to establish plantings on 3 miles of power line ROW. The department provided the equipment and labor to plant the seed.

The Louisiana Chapter of the National Wild Turkey Federation funded projects to establish plantings on West Bay, Boise Vernon, and Thistlethwaite WMAs. Approximately 13 acres of logging decks, closed roads, and fire lanes were planted to enhance brood habitat on West Bay WMA. A similar project was funded on Boise Vernon WMA, where 12 miles of pipeline (39 acres) were planted in millet, wheat, and/or clover. Approximately 100 acres of new spring and fall plantings will be established on Thistlethwaite WMA.

## Restocking and Restoration

For many years, restocking was the cornerstone of the Department's wild turkey program. Restocking areas of suitable habitat with relocated wild turkeys began in 1962. Since then, 3,814 wild turkeys have been released. Some of these birds have come from out of state sources, but the vast majority has been relocated from areas within the state. A comparison of the areas open to turkey hunting in 1963 and 2004 illustrates the success of this program (Figures 5 and 6). However, relocating turkeys was only the first step. Without the cooperation of hunters, landowners, and managers the Department's restocking program would not have been successful.

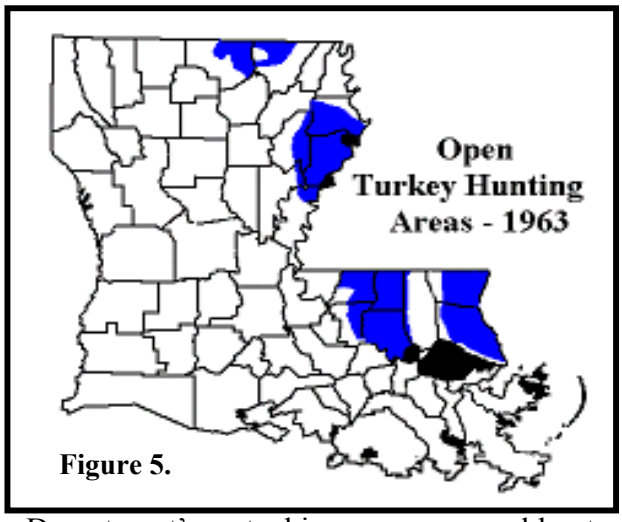


Figure 5.

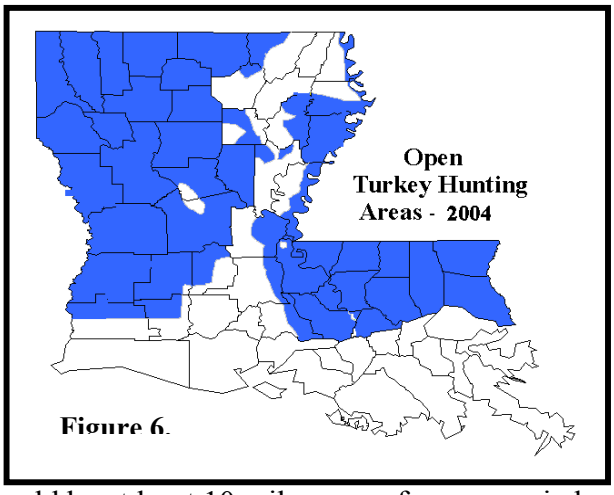


Figure 6.

There are several criteria that must be met before the Department will restock a tract of land. In most case, sites chosen for restocking contain at least 4000 acres of good habitat which is unoccupied by turkeys. Since turkeys are apt to travel some distance, the site should be at least 10 miles away from occupied turkey habitat, unless it is isolated by a barrier preventing emigration of turkeys from occupied habitat. To the extent possible, land use trends are considered to determine whether adequate habitat will be available in the future. Landowners must agree to allow the Department to trap

turkeys for 10 years to release on other sites. Finally, a zone around the release site will be closed to turkey hunting for at least 5 years and the site must have adequate protection to prevent poaching.

The criteria for restocking are arduous and there are many areas of Louisiana which do not meet these criteria. This of course is a result of the success of the program. Most areas of the state which contain good habitat either have turkeys or are near established populations which in time, should expand to fill in the voids. Occasionally, well-intentioned conservationists suggest relaxing the Department's restocking criteria so more areas will be eligible. The Department has not done so for a number of reasons. The criteria established by the Department have evolved over time and are the result of experience and knowledge of wild turkey ecology. Experience has shown that releasing turkeys in areas deficient in a key habitat ingredient usually results in failure. In cases where turkeys are already present or nearby, but have not expanded, there is usually an underlying problem. If the problem is not addressed, it is unlikely that restocking will have the desired result. Wild turkey relocation is an expensive and labor intensive activity that is undertaken only when the release is likely to succeed. It is important to keep in mind that for every release, the turkey hunting season in a zone around the release site is closed for 5 years, and a landowner somewhere in Louisiana or elsewhere has agreed to give up some turkeys. The Department has an obligation to the hunters surrounding the release site, the landowners supplying the turkeys, and to the public, to ensure that the release has a high probability of success so the turkeys, related expenditures, and lost hunting opportunity are not wasted.

Two releases were made in 2003/04. A release consisting of 15 birds was made in northern Pointe Coupee Parish. Birds for this release came from within Louisiana. Twenty wild turkeys from South Carolina were released in Assumption Parish. The Louisiana Chapter of the National Wild Turkey Federation funded this release.

## Status and Outlook

Louisiana's wild turkey populations in 2004 are generally healthy. Successive years of good production have resulted in high turkey populations in many areas. In the last few years, many newly stocked areas, particularly in north Louisiana, have opened for hunting. Turkeys in this region have fared well due to excellent production, protection and the availability of good habitat. An increasing proportion of the state's turkey harvest is from north Louisiana. Southeast Louisiana, on the other hand, is an area of concern. Most of the population indicators for this region have been declining. Deteriorating habitat due to development and certain forest management trends are thought to be largely responsible.

Abundance of wild turkeys depends largely upon how we manage and protect their habitat. There are a number of land use and management issues on the horizon that will likely

affect turkey habitat, and ultimately turkey populations. Decreased use of prescribed burning and a trend toward shorter pine stand rotati-ons raise concern for the future of wild turkeys in pine dominated habitats throughout the state. The impacts of expanding human populations on wild turkey habitat are also a concern. The recent U.S. Census indicates significant growth in some Louisiana parishes. In many cases, this growth is occurring in once rural parishes that border cities. Suburbanization and development of rural areas is occurring across the state, resulting in deterioration and outright loss of turkey habitat in affected areas. On the bright side, increased efforts by the forest industry to develop and maintain streamside management zones and their participation in the Sustainable Forestry Initiative will help maintain some important components of turkey habitat and possibly mitigate some of the negative effects of shorter pine stand rotations. Wild turkey habitat in Louisiana's alluvial habitats should increase in the future as a result of federal farm programs that have encouraged reforestation of certain types of agricultural land. The Department of Wildlife and Fisheries will continue to monitor these trends to provide habitat management guidance to land managers and to develop hunting regulations adapted to the changing landscape.